

U.S.S.N. 10/656,754

Specification Amendments

Please replace paragraph 0026 with the following rewritten paragraph

0026        It will be appreciated that conventional digital signal processing functions and voltage regulation functions may be included on the PAB. For example, the differential amplifier 204 206 may be connected to conventional selectable feed back resistors to provide a desired signal bandwidth, for example, preferably greater than about 400 KHz. In addition, the differential amplifier may be conventional CMOS low-noise operational amplifiers, for example single or multiple stage dual or quad operational amplifiers, for example including series connected NMOS and PMOS transistors. Preferably, the PAB has a signal amplification capability for sampling and producing amplified current signals having a signal bandwidth greater than about 400 kHz. Preferably, the PAB electronics are capable of amplifying a current signal, for example an electron beam induced current signal from the IC conductive interconnects, by a factor of at least about  $10^6$ , more preferably, from about  $10^6$  to about  $10^{12}$  to produce pico-amp SCD sensivity.